

EU LIFE+ Roseate Tern Recovery Project

## Roseate Tern LIFE and LIFE Little Terns' Report on visiting the little tern sites in the Netherlands, 12<sup>th</sup>-14<sup>th</sup> April 2016

Leigh Lock, Chantal Macleod-Nolan, Rosie Miles and Susan Rendell-Read



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And part of the EU funded LIFE project “Improving the conservation status of the little tern in the UK through targeted action at the most important colonies.” LIFE12 NAT/UK/000869

December 2016



## 1. Introduction

The main aims of the study trip were to exchange information on tern management and conservation with partner organisations in the Netherlands. The trip involved 7 site visits and a meeting with Vogel Bescherming Nederland (VBN) to discuss the conservation strategy for terns in the Netherlands. The tour provided ample opportunity to meet different conservation bodies involved in tern conservation and to exchange information on habitat management and creation, use of artificial sites, use of dredgings, predation and predator management monitoring, disturbance and food availability. Experience and knowledge from the Netherlands is particularly relevant to the UK because of the similar climate and ecological issues.

### Broad objectives

- Developing knowledge of best practice tern conservation management within habitats/climate similar to UK.
- Gather information on tern colony management, best practice and lessons learned for the UK.
- Discuss long term conservation strategies for terns in light of Climate Change/sea level rise.
- Explore areas of joint working on tern conservation in the future.

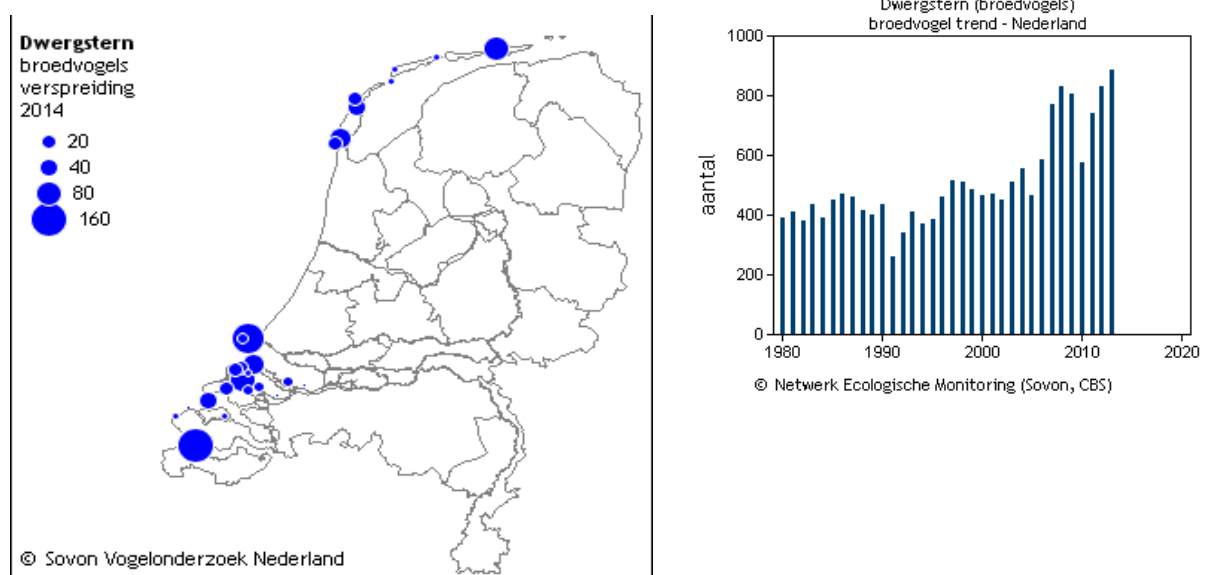


Figure 1: Distribution of breeding little tern in the Netherlands and their historical breeding pair trend © Sovon

## 2. Information about the sites visited and key points



During the first half of the 20<sup>th</sup> century, there were believed to be a maximum of 1000 pairs nesting in the Netherlands. Unfortunately, because of the pesticides used in agriculture, the nesting little tern numbers along with other tern species until there were only 100 breeding pairs left in 1967. Since the 21<sup>st</sup> century the little tern population has recovered to a maximum average of 800 pairs although the annual records can fluctuate greatly (Figure 1).

The Delta Area which is located in the Zeeland province holds approximately 75% of the Dutch breeding population, which includes the Hooge Platen site in Westerschelde and Neeltje Jans in the Oosterschelde. The rest of the breeding little terns are located in the Wadden Area across several islands including Texel (Figure 2).

Figure 2: Map of the Netherlands showing the location of the sites visited

### 2.1 Neeltje Jans, Zeeland

#### Hosts & their contact details:

Vogelbescherming Nederland, which was founded in 1899, is a Dutch national conservation organisation focused on protecting wildlife. Their work consists of conservation programmes, partnership working, petitions and public awareness. From 1994 onwards, they are also a partner of BirdLife International.

Jonna van Ulzen (Nature Policy Officer) – [jonna.vanulzen@vogelbescherming.nl](mailto:jonna.vanulzen@vogelbescherming.nl)

Inge Both (Wetlands Policy Officer) – [inge.both@vogelbescherming.nl](mailto:inge.both@vogelbescherming.nl)

Natuur- en Vogelwacht Schouwen-Duiveland is an organisation which is focused on protecting nature, landscape and the environment in the County of Schouwen-Duiveland. Members introduced to at the site: Willem Post

#### Information about the site:



### **History**

Neeltje Jans is an artificial island, approximately 285 hectares large, which was built to facilitate the construction of the Oosterscheldekering (Eastern Scheldt storm surge barrier) between the islands Schouwen-Duiveland and Noord-Beveland. Neeltje Jans is one of the two artificial islands that make up the Oosterscheldekering along with three movable flood barriers.

Once the work was completed in 1986, the conservation bodies: Natuurmonumenten and Het Zeeuwse Landschap took the initiative and united in order to transform part of the area into a nature reserve.

**Figure 3: Sites visited on Neeltje Jans**

This consisted of removing the rubble and laying tons of sand instead. Relying on the wind, it created natural dunes from the laid sand and the wind coupled with birds brought seeds. This transformation continued naturally with wildlife growing and arriving until it became a nature reserve 'Nationaal Park Oosterschelde'. There are currently two little tern breeding areas on Neeltje Jans.

The rest of Neeltje Jans targets tourism with an information centre and a theme park.

#### **1: 'Tophuis' colony (northern site)**

The northern site is located near the Topshuis building which belonged to Rijkswaterstaat, the Ministry of Infrastructure and the Environment. The little terns started nesting at this location approximately 7 years ago and presumably arrived from the southern site (2<sup>nd</sup> site).

The area is seaward facing with some shelter; however it does flood periodically with 3 metre high tides. The beach is asphalt which is covered with sand however due to erosion as a result of flooding and wind; sand replenishment is required. This covers a stretch of 50metres on the beach and adds 80cm height. Rijkswaterstaat is the organisation currently responsible for this and within the last 7 years they have done this twice. Long term it is unknown. Volunteers add shells and stones to this area to further attract the little terns.

The organisation (Natuur- en Vogelwacht Schouwen-Duiveland) monitors the site using scopes. It is predominantly Willem and Eckhardt on site along with a few others; however they can call on up to 20 people. They place signs and fence off the area with rope in order to deter the public and dog walkers, which has helped limit the high level of visiting tourists. Rijkswaterstaat have staff that does security patrols nearby.

Regarding food availability, it is assumed to be quite good. They have observed that when the dam doors are open, even with the strong current present, there are numerous little terns fishing on either side of the dam. Interestingly the actual quality of water inside the dam, the ecology on the

Oosterschelde side is very poor which has affected the fish diversity. There is ongoing research focusing on the pollution in the rivers, a beaver study looking at blood analysis.

Regarding predation, fox are not considered a concern, however brown rat is and bait boxes have been placed around the car park at Rijkswaterstaat.



Figure 4: Tophuis site. Showing the dam in the background, signs used and sand replenishment (c) SRR

The little terns nest directly below a wind turbine which according to Vogelwacht normally did ok, in the past the maximum numbers of breeding little tern pairs recorded was 40. In 2015, there were 30 breeding pairs during the summer; however 8 little terns were recovered from the breeding area, cause of death unknown. Of the two sites visited on Neeltje Jans, this is the original breeding site, which is near water and the substrate consisted of small stones.

As a result prior to the breeding season of 2016, the united efforts from het Zeeuwse Landschap and Rijkswaterstaat focused on creating a new site further away from the wind turbine and decorated with shells and stones to attract the little terns. It will be interesting to find out if this is successful.

There is a black-backed gull and herring gull colony nearby and the area also supports nesting oystercatchers. In addition, there are apparently a good number of kite surfers nearby, however the effects on little terns are unknown.

Past the wind turbine, there is a Shelderadartoren, height approximately 115m, which was built between September 2014 and June 2015. During this period the staff tried to deter the little terns from nesting under the wind turbine by walking dogs nearby in effort to scare them away. This was initially a success however after 2 weeks, the little terns returned.



Figure 5: Sluice site. Left - Photo shows both the site directly under the wind turbine and the newly created site away from the wind mill on the right. Top Right - Substrate of original site, Bottom Right - Substrate of new site. (c) SRR

## 2.2 Hooge Platen, Zeeland

### Hosts & their contact details:

Het Zeeuwse Landschap manages landscapes and has almost 10,000 hectares of national reserve. It is a regional organisation, founded in 1936, which is 60% government funded and 40% self-funded/other.

Fred Schenk (Head of Southern District) - [f.schenk@hetzeeuwse-landschap.nl](mailto:f.schenk@hetzeeuwse-landschap.nl)

Rene Beijersbergen (Projects and Ecology Staff member) - [r.beijersbergen@hetzeeuwse-landschap.nl](mailto:r.beijersbergen@hetzeeuwse-landschap.nl)

Rene recently published in 2016 the book 'Reizen langs het waterkant' which about the breeding ecology of little terns predominantly in the Netherlands, however it also mentions several sites in the UK.

### Information about the site:

Hooge Platen is a shoal complex made up of several large sandbanks. It is located in the Westerschelde area in front of the coastline between Breskens and Hoofdplaat. The Westerschelde estuary is a Natura 2000 site. At low tide the Hooge Platen area is as large as 1800 hectare, however at high tide the majority is inundated revealing only 'de Bol' which is 70 hectares. De Bol is a small island that occasionally gets flooded during in spring tides.



Figure 6: Aerial view of Hooge Platen (c) GoogleMaps

It is one of the most important nesting areas for breeding little terns, common tern and Sandwich terns. Regarding little terns, there used to be two sites however only one remains after a high tide in during the winter of 2015 removed the southern facing sand bank, effectively losing 40 metres. This site was closer to the water allowing for a smaller distance for foraging.

The other site on Hooge Platen is requires terns to fly a slight increased distance. VogelBescherming Nederland hired a contractor in 2012 to put wooden posts in place to retain sand as erosion is a major concern. The 1.5m posts went one metre into the sand with 50cm standing out and were buried in two rows. There has been some restoration work done since then as some of the poles had been lost. In addition shells were provided to make it more appealing for the little tern and Kentish plover (a declining species). Historically there were 40 breeding pairs of Kentish plover, however now there are only 3 or 4 pairs in the Zeeland province.

In 2015, there were 120 pairs of little terns however the productivity was very poor with only 5 chicks successfully managing to fledge. In 2014, there were no fledglings recorded at all. In good years the average productivity for little terns is 0.8. On Hooe Platen the Sandwich tern population is stable at 2000, although it used to be approximately 5000.

The Westerschelde is the main channel used by commercial boats heading to the harbour at Antwerp, in addition this also used by many Belgium ships. As a result of constant dredging where the channel is being made deeper, the current is increasing around Hooe Platen. This is increasing the rate of erosion occurring at Hooe Platen. Due to the channel's smooth walls which no longer have small nook and crannies supporting fish nurseries, there will presumably be a knock on effect to the breeding seabird colonies in the area as it will take awhile to recover.

In Oosterschelde which is where Neeltje Jans is located, there are no sand bars left in the channel. They have done restoration here at Westerschelde and according to Rene; he recommends that it is restored every 7 years but not too often. The placing of dredging on the end of the sand bar (which is easy and low cost) killed marine life and caused the breeding terns to have poor productivity. Unfortunately it is more expensive to pump the dredged material where it is needed.

Both Fred and Rene monitor and warden the area by occasionally landing from 1<sup>st</sup> May to the 1<sup>st</sup> September. Otherwise there is limited disturbance as the area is a nature reserve preventing public access. The locals at Breskens village and the marina village are aware of the nature reserve (since 1978) and are happy to adhere to the regulations. The fast RIBs which come from further afield are a concern and more difficult to prevent. Mammalian predation is not deemed to be a problem however the increasing number of Canada geese are a concern along with 1000 Mediterranean gulls and black-backed gulls.

*Additional Notes :*

Rene retires at the end of the year

Sovon is monitoring, research and provide funds (eg for Rene's book)

National population 16,000 ST, 750 LT was zero in 1970s, grown since and now stable

RP always on southern edge of range/Redshank 10-12 pairs and increasing and this is good numbers

OY increasing/Redshank on mainland declining





Figure 7: Hooge Platen: Top photo shows the main site along with the shells. Bottom Left shows the mitigation measures using fence posts. Bottom Right, shows the mainland from island and the channel used by large ships. (c) SRR

## Nummer Een, Zeeland

### Hosts & their contact details:

Het Zeeuwse Landschap: Rene Beijersbergen, Fred Schenk

### Information about the site:

The site, Nummer Een is located on the coastline between Breskens and Hoofdplaat facing Hooge Platen. It is an artificial site that was created in 1994 when managed realignment was taking place to accommodate the loss of the coastline from erosion. The new sea wall was built and a concession was made for a nature habitat to fit in with the increasing tourism in the area. The old sea wall was flattened and converted into a cycle route and part of the land was converted to farmland. The rest was transformed into an island with a brackish lagoon isolating it from the coast. The site can be viewed from a hide on the new/current sea wall. The site is ploughed once a year by a tractor which can only access the island by adding a bridge and then removing it after its task is completed. Once every 4 years shells are added to cover the newly ploughed site in order to appeal to terns.

Nummer Een can flood completely during the summer but generally does not (will flood if tide is +2.75m). It does however flood often in winter

Little terns and common terns successfully nest there. Rene Beijerbergen also stated that little terns may be nesting at this site first before Hooge Platen, which could be attributed to food. Studies show that fish studies are closer there and then they spread out, which would explain why there are numbers on Hooge Platen. This is theorised though and not confirmed. Interestingly the site gets a large Sandwich tern roost however they don't nest there.



Figure 8: Nummer Een. Left photo shows site with Hooge Plate in the Distance. Right shows the hide on top of sea wall. (c) SRR

## 2.3 De Hors, Texel

### Hosts & their contact details:

Staatsbosbeheer, founded in 1899 is a Dutch government organisation for Forestry and the management of Nature reserves. It currently oversees over 265,000 hectares in the Netherlands.

Erik van der Spek (Ranger on Texel) - [e.spek@staatsbosbeheer.nl](mailto:e.spek@staatsbosbeheer.nl)

Vogelbescherming Nederland: Jonna van Ulzen,

Ruud van Beusekom – [ruud.vanbeusekom@vogelbescherming.nl](mailto:ruud.vanbeusekom@vogelbescherming.nl)

### Information about the site:

De Hors is located on the southern point of Texel and it is a large beach plain. This large coastal plain was formed because in the past shoals 'walked' towards the island. The last shoal to do so was Onrust in 1910. On the plains there are new dunes being formed which along with the older dunes accommodate a variety of wildlife. It is a dynamic ecosystem and believed to be the most natural dune system in the entirety of Texel. The island of Texel has been existence 800 years and can be considered 'young.'

There were manmade dykes (sand banks) in the 1950s and the 1976 where they attempted to reclaim land; however that was the last time they built anything. They do some management which

included mowing and removing scrub, however orchid specific management is not done as it requires a lot of effort.

The 'Aflsuidijk,' which was built between 1927 and 1932 between the province of North-Holland and Friesland, reduced the Wadden Sea by separating it from IJsselmeer. Historically the IJsselmeer area used to have breeding terns however this has not been the case in many years. The ecology of the IJsselmeer has changed drastically as the water changed from sea-water to brackish and by 1937 was predominantly freshwater based. As a result of the dyke Texel is no longer growing and has been losing some ground on the west side. To counter this, since the 1990s, sand has been recharged on the beach or offshore every 3 -4 years so that it recharges the beach and the loss has stabilised.

A large part of de Hors is owned by the Ministry of Defence and the area accommodates amphibious training. The wildlife in this area is and managed by Staatsbosbeheer.

Little terns have nested on de Hors since 1970s and although they have lost nests either due to flooding or by coming into conflict with the military activities, they kept returning. In 1998 the military have organised their training events around the little tern colony. The little terns nest on the coastal plain however they do not nest on the sand but instead on the area decorated with shells. Their breeding locations will shift and can change each year. The particular area we visited only floods in the summer once every couple of years and as a result this has been their main breeding area for the previous couple of years. Small numbers (10-15) of ringed plover also breed here along with one or two pairs of Kentish plover.

There is no active management of the habitat and no wardens; however once the little terns have chosen a site, then fencing/ropes are put around the colony coupled with signage dictating that dogs must be on leads from 1<sup>st</sup> March to 1<sup>st</sup> September. There are apparently a variety of predators however their impact on the little tern colony is inconclusive. It is presumed that the largest risks are dogs off leads. Disturbance reduces with the distance from the car park. Most people only walk a little way, to the viewing sites, or to view the spoonbills nesting. There is little foot traffic on the beach. There are no big towns nearby / none on Texel.

In the previous year there were 60 pairs nesting on the shelled area, with 1-3 pairs nesting in other locations on de Hors. There is ad-hoc monitoring with only one person recording the number of nests, however productivity data is unknown. The impression is that productivity is good because there have been many large chicks observed. As Sandwich terns are part of a project on Texel, they are monitored more closely.

*Additional Notes :*

There is no ringing.



Figure 9: De Hors, Photos show how the area is a large beach plain. Bottom photos show the nesting site with shells. Also dog on lead signs (c) SRR

## 2.5 Utopia, Texel

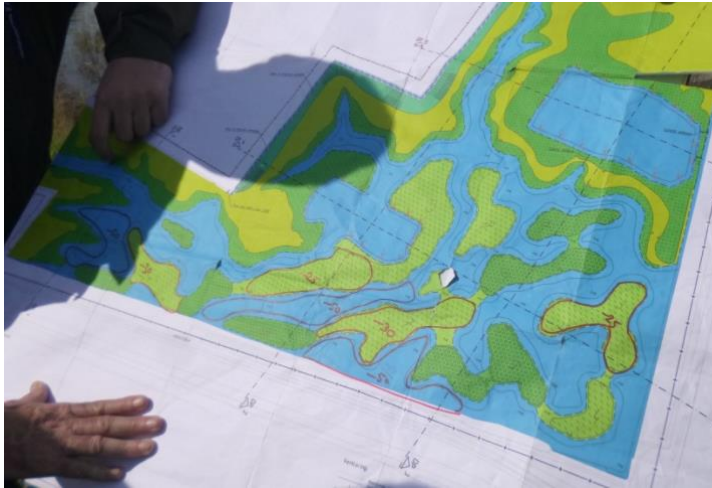
### Hosts & their contact details:

Natuurmonumenten, founded in 1905, is a Dutch organisation that buys, protects and manages nature reserves in the Netherlands. In 2010, they owned 1700 buildings and managed 355 sites with a total area of 1029.51km<sup>2</sup>. The English translation means 'Society for preservation of nature monuments in the Netherlands.'

Eckard Boot (Ranger on Texel)

Vogelbescherming Nederland: Jonna van Ulzen, Ruud van Beusekom

### Information about the site:



The site Utopia is located behind the sea wall of the Waddendijk on the east side of Texel. It is 28 hectares. Previously it used to be a grassland area; however in 2010 it was converted by Natuurmonumenten to target several various wader and tern species. The development started in 2010 and was finished in the winter of 2011 making it approximately 5 years old. It was named after the farm near the site. Utopia is designed with manmade 5

**Figure 10: Natuurmonumenten's map of Utopia showing how it was designed including the five islands**

islands which all connect for ease of access to manage them. Access is required for laying down shells and removing vegetation prior to the breeding season. The islands are very flat and low and this does not allow the rats to burrow. In addition the level of each island is changed deliberately since it is targeting a variety of species and maximising the opportunities in increasing diversity. The mean water level is -40cm and islands are at a range of -30, -25 etc. The water between islands is -80 and designed for spoonbill to stand and feed in. There is no tidal influence and saltwater comes through the seawall through seepage, however there is a pump and seawater can be pumped on if needed. During the season, the site does get more saline due to evaporation. Natuurmonumenten would ideally like to make more areas like this in the future.

Regarding tern species at Utopia, Sandwich terns arrived first approximately 3 years after it was built. It was believed that these individuals moved from their then breeding area: Otterstaat and De Petten on Texel to Utopia. In 2015 there were a record-breaking 6000 nesting Sandwich terns, although the numbers do fluctuate yearly. The monitoring and breeding counts were done with a drone, which took screen shot images and then the nests marked.

Little terns have been observed at Utopia, we saw the first arrival of the year at Texel during our visit on 13<sup>th</sup> April! Although there have been up to 5 pairs recorded nesting on Utopia, they have never succeeded past egg stage. Unfortunately the causes of these nest failures are currently unknown. One theory could involve the distance from their food source as Sandwich terns have been observed flying towards the lighthouse 'Eierland' in Dr Cocksdorp which is approximately 5km away, but this has not been confirmed.

Volunteers can pay to come and stay in a moveable hut for a week at a time where they do some monitoring and public engagement. The success of this varies as not individuals are as experienced as others. It is a popular area for birders to come and observe rarities.

There are webcams that were placed on the Sandwich tern colony for monitoring purposes, however that are also used as public engagement tool through internet too (<http://www.wadden.tv/webcam-utopia>). As a result they are away of rats being observed on these islands.



Figure 11: Utopia (c) Eckard Boot

Additional Notes :

*Compare Utopia to Donna Nook and Easington landward wetlands*

## 2.4 Volharding, Texel

### Hosts & their contact details:

Natuurmonumenten: Eckard Boot

Vogelbescherming Nederland: Jonna van Ulzen, Ruud van Beusekom

### Information about the site:

De Volharding is breeding area on the east coast of Texel, near the town of Cocksdorp. The area is getting smaller each year due to flooding and erosion caused by the Wadden Sea. There is no management there at all with regards to marram or intervening with the public.

They do have signs informing the public which is mainly local dog walkers about the area being important for sensitive breeding birds and also a good high tide roost. The water channel to the north is not a main shipping channel but just for local fishing vessels. They have some recreational vessels but not many. Further along towards the lighthouse (the area sandwich tern s where have been observed fishing), there is a hut where educational visits go out to view the seals hauled out on the sandbars.

In 2014 there were 60 pairs nesting little terns using the site along with common tern, Arctic terns, ringed plover and common gulls. The nesting population of Arctic terns is decreasing though.

### **Additional Sites mentioned during the trip:**

- De Razende Bol: a sandbank that is located between Den Helder (mainland) and Texel, which supports a small little tern colony. It is managed by Landschap Noord-Holland and can be occasionally disturbed by recreational boat trips.
- Hengst & Richel are two sandbanks which are located between Texel and Vlieland. There is a small colony on Hengst however it is hard to monitor it as it is difficult to land.
- On the island of Vlieland, there is a small little tern colony which is located in a military area and disturbance is limited by the public as it is closed on weekends
- There is also a small colony on Terschelling.

### **3. Meeting at VogelBescherming Nederland, Zeist**

#### **Hosts & their contact details:**

Vogelbescherming Nederland: Jonna van Ulzen, Ruud van Beusekom, Inge Both

*Apologies: Manon Tentij*

#### **Information and Topics Discussed:**

Presentations given by Leigh Lock on LIFE Roseate Tern project and by Susan Rendell-Read on LIFE Little Tern Project.

Jonna van Ulzen gave a presentation explaining their project; Rust voor Vogels, Ruimte Voor Mensen in het Waddengebied (Quiet for birds, room for people in the Wadden Sea). This covered the importance of the Wadden Sea as it is an important international flyway. They have been observing changes in breeding trends in numerous species with some increasing ; for instance Grey Plover and others declining including common terns, avocets and Kentish plover. Those in decline could be attributed to pressures including climate (spring storms), economic pressure (fisheries, mining for gas), and human disturbance (public ignoring fencing). The Wadden islands receive approximately 2.3 million visitors which is a stable number however the time period of when visitors come is expanding. The public attitude does not respect the area and recreational pressure is high.

[http://www.vogelbescherming.nl/vogels\\_beschermen/natuur/rust\\_voor\\_vogels/waddengebied](http://www.vogelbescherming.nl/vogels_beschermen/natuur/rust_voor_vogels/waddengebied)

Regarding habitat creation, there are potential areas of common terns and avocets on the mainland; however they are predators which limit their opportunities. VBN have also been considering opening dams and reclaiming gullies to restore certain areas. In addition VBN have making rafts on lakes and creating islands.

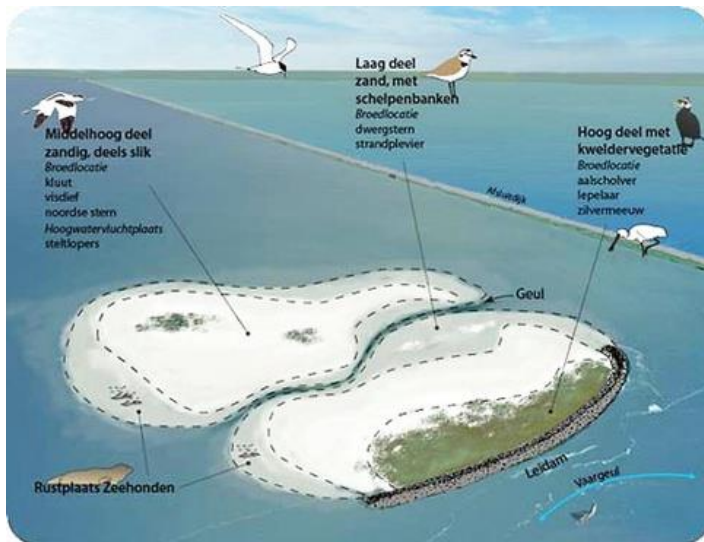


Figure 12: Vogelsand (c) Vogelbescherming Nederland

Vogelsand is one such breeding island that Vogelbescherming is planning to create specifically tailored to accommodate numerous species; the lower sand area with sand banks will support Kentish Plover and little terns; the middle area with sand and sparse vegetation will support common tern, Arctic tern and avocets; and high area with vegetation will support cormorants and spoonbills. The location is beside the Afsluitdijk outside the harbour of

Leidam, Den Oever and will be approximately 10 hectares where they will dredge a section but will allow natural process to occur. This area is an especially rich with food as it provides freshwater, seawater and brackish feeding areas. In addition they are focusing on a morphological study which research the currents and whether the site would erode or not. The draft proposal as also changed to move the location further away from the harbour to prevent fox from swimming across. Currently VBN is applying for a license from Natura2000 regarding phase management and also busy liaising with stakeholders, local fishermen and infrastructure companies.

[http://www.vogelbescherming.nl/help\\_mee/bedrijven/stern\\_groep\\_nv](http://www.vogelbescherming.nl/help_mee/bedrijven/stern_groep_nv)

Regarding the management of little tern sites, in the Netherlands they is a lack of evidence of nest failure due to having a high turnover rate of volunteers with varied experience and no monitoring protocol. With regards to fox control, the government distributes the tasks to local hunting groups. The aerolaser is only issued on geese to chase from fields or gulls from airports. Kite surfers used to be a problem however now that the Natura 2000 areas are designated they are able to follow through and reinforce.

Aircraft disturbance – military planes are present in the Wadden sea, however if the breeding area is near an airfield, the birds have been recorded to acclimatise to familiar planes but react to different ones flying over. VBN is interested in drones and have used them for monitoring. The recreational impact is yet to be known. Microlights have been a problem, as by the time they identify it, it is too late.

The effect of wind farms on terns is something Het Zeeuwse Landschap is interested in and the birds recovered from Neeltje Jans would have been autopsied under Rijkswaterstad authority (outcome currently unknown). VBN would like to get some survey information on wildlife and its relationship with wind farms (e.g. migration and foraging behaviour) however funding is needed for that kind of research. The effect on tern foraging and fish population as a result of tidal arrays is also something that the VBN would like to look at.

VBN have previously applied for LIFE funding however they have been unsuccessful and expressed an interest in how the RSPB applications towards LIFE funding were written. As a result concerning their future work, unfortunately there will be no LIFE funded project for VBN this year as they will



have to reassess the project objectives and scope. They are planning to work on their application which focuses on the Wadden breeding birds and their role in providing knowledge and reapply next year.